

## WHAT IS CLAIMED IS:

1. A method of screening a test molecule for ER $\beta$  agonist activity, wherein the method comprises the steps of:
  - 5 a) TPH mRNA riboprobe with a biological sample;
  - b) determining the level of transcription of TPH in the sample by hybridization, thereby generating data for a test level; and
  - c) comparing the test level to a control level, wherein an increase in TPH transcript level in the sample relative to the control indicates ER $\beta$  agonist activity of the test molecule.
- 10 2. The method of claim 1, wherein the transcription of TPH is induced by an ER $\beta$  agonist.
3. A method of screening a test molecule for ER $\beta$  agonist activity comprising the steps of:
  - 15 a) contacting the molecule and TPH primers with a biological sample;
  - b) determining the level of transcription of TPH in the sample by reverse transcription and polymerase chain reaction (RT-PCR), thereby generating data for a test level; and
  - 20 c) comparing the test level to a control level, wherein an increase in TPH transcript level in the sample relative to the control indicates ER $\beta$  agonist activity of the test molecule.
- 25 4. The methods of claim 3, wherein the expression of TPH is induced by an ER $\beta$  agonist.
5. The method according to claim 3, wherein the control level is obtained by measuring the level of TPH mRNA transcripts in a sample that has been vehicle treated.
6. A kit for TPH assay comprises a TPH mRNA riboprobe.
- 30 7. The kit of claim 6, further comprises a hybridization buffer.

8. The kit of claim 6, wherein *in situ* hybridization histochemistry is employed for the assay.

9. The kit of claim 6, wherein the concentration of the riboprobe is between about 1 and about 500 ng/ml.

5 10. The kit of claim 6, wherein the concentration of the riboprobe is between about 20 and about 200 ng/ml.

11. The kit of claim 6, wherein the concentration of the riboprobe is about 75 ng/ml.

12. A kit for TPH assay comprises TPH primers.

10 13. The kit of claim 12 further comprises components selected from the group consisting of a reverse transcriptase buffer, a reverse transcriptase enzyme, a PCR buffer, dNTPs, and a thermostable DNA polymerase.

14. The kit of claim 12, wherein RT-PCR is employed for the assay to amplify a target nucleic acid.

15 15. The kit of claim 14 wherein the RT-PCR is real time RT-PCR.

16. The kit of claim 12, wherein the target nucleic acid is RNA.

17. The kit of claim 12, wherein the concentration of the primer is between about 1 and about 500 ng/ml.

18. The kit of claim 12, wherein the concentration of the primer is between  
20 about 20 and about 200 ng/ml.

19. The kit of claim 12, wherein the concentration of the primer is about 75 ng/ml.

20. The kit of claim 12, wherein the concentration of the primer is about 25 ng/ml.

25